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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/599,057	12/21/2006	Martin Dybendal Nielsen	1034279-000029	3650

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BUCHANAN, INGERSOLL & ROONEY PC  
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EXAMINER
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HEALY, BRIAN

ART UNIT	PAPER NUMBER
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2883

NOTIFICATION DATE	DELIVERY MODE
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07/08/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ADIPFDD@bipc.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/599,057	<b>Applicant(s)</b> NIELSEN ET AL.	
	<b>Examiner</b> BRIAN M. HEALY	<b>Art Unit</b> 2883	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-110 is/are pending in the application.
- 4a) Of the above claim(s) 10,12,14,17,19,21-34,36-42 and 46-99 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 35 is/are allowed.
- 6) ☒ Claim(s) 1-9,11,13,15,16,18,20,43-45,100-102,104-107 and 109 is/are rejected.
- 7) ☒ Claim(s) 25,103,108 and 110 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 September 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20061221</u> .  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
2. Claims 10, 12, 14, 17, 19, 21-24, 26-34, 36-42 and 46-99 have been cancelled by Applicant.

### ***Allowable Subject Matter***

3. Claim 35 is allowed. Chandalia et. al., U.S. Patent Application Publication No. U.S. 2002/0114574A1, does not teach or suggest, either taken singly or in combination with other references of record, the specific values for refractive index, fiber diameter relationships and numerical aperture recited in claims 35 and 103. See claim 35 for the specific limitations.
- 4.
5. Claims 25, 103, 108, and 110 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The closest prior art of record, i.e. Chandalia et. al., U.S. Patent Application Publication No. U.S. 2002/0114574A1, does not teach or suggest, either taken singly or in combination with other references of record, the specific values for refractive index, fiber diameter relationships and numerical aperture recited in claims 25 and 103. See claims 25 and 103 for the specific limitations. Chandalia et. al. also does not teach or suggest operating the optical fiber at 1.06um as is recited in claims 108 and 110.

6.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-9, 11,13,15,16,18, 20, 43-45, 100-102, 104-107 and 109 are rejected under 35 U.S.C. 102(b) as being anticipated by Chandalia et. al., U.S. Patent Application Publication No. U.S. 2002/0114574A1.

9. Chandalia et. al. 574' teaches a microstructured/photonic bandgap crystalline optical fiber (or fiber coupler operable in the range of 1.3um to 1.65um) comprising: a first optical fiber cross-section perpendicular to the fiber longitudinal axis 20 of a predetermined refractive index profile with a first core region 12 (Note paragraph 28 which indicated that the core can be doped with a rare earth so that the fiber can be used as an amplifier) and a first cladding region 16 of a predetermined refractive index profile with periodically placed microstructured holes (Note that the holes appear to have pre-determined center-to-center distances along the longitudinal axis of the fiber) , an intermediate tapered region 22 and a second fiber cross-section 24 of a smaller diameter or cross-section (cross-section is larger than zero) compared with fiber cross-section 20 with a predetermined refractive index profile for core, cladding and microstructured holes so that the mode field diameter of light traveling in the first fiber section 20 is greater than the mode field diameter of the second fiber section 24, which

clearly, fully meets Applicant's claimed limitations. It should be noted that while Chandalia et. al. does not specifically state what index profile is used (i.e. whether step-index or graded-index) it is nevertheless inherent that either profile is within the purview and knowledge of the skilled artisan.

10. A copy of PTO-1449 will be included in this office action.

11. The following references are also cited by the Examiner as being pertinent and/or related art: Fajardo et. al., U.S.P. No. 6,987,783 (Figs.1-8), Wu et. al., U.S.P. No. 6,362,916 (Figs.1-13), Broeng et. al., U.S. Patent Application Publication No. U.S. 2006/0067632A1 (Figs.1-18c), Wu, U.S. Patent Application Publication No. U.S. 2001/0022879A1 (Figs.1-8) and Eggleton et. al., U.S. Patent Application Publication No. U.S. 2004/0202438A1 (Figs.1-7).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN M. HEALY whose telephone number is (571)272-2347. The examiner can normally be reached on M-F 6AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571)272-2415. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2883

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

**/BRIAN M. HEALY/  
Primary Examiner  
Art Unit 2883**

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